Setting up your HPC environment for HabitatSim

1) Create a directory for your environment and copy the overlay

```
mkdir images
cd images/
cp -rp /scratch/work/public/overlay-fs-ext3/overlay-50G-10M.ext3.gz .
```

2) Launch and get inside the container to prepare the environment

```
singularity exec --overlay /scratch/pr2257/images/overlay-50G-10M.ext3 /scratch/work/public/singularity/cuda11.6.124-cudnn8.4.0.27-devel-ub
wget https://repo.continuum.io/miniconda/Miniconda3-latest-Linux-x86_64.sh
sh Miniconda3-latest-Linux-x86_64.sh -b -p /ext3/miniconda3
```

3) Create a wrapper script /ext3/env.sh

```
#!/bin/bash

source /ext3/miniconda3/etc/profile.d/conda.sh
export PATH=/ext3/miniconda3/bin:$PATH
export PYTHONPATH=/ext3/miniconda3/bin:$PATH
```

4) Activate your conda environment with the following:

```
source /ext3/env.sh
```

5) Preparing conda env

```
# We require python>=3.7 and cmake>=3.10
# Source: https://github.com/facebookresearch/habitat-sim
conda create -n habitat python=3.7 cmake=3.14.0
conda activate habitat
```

6) conda install habitat-sim

```
conda install habitat-sim withbullet headless -c conda-forge -c aihabitat
```

7) Clone the HabitatSim github repository

```
git clone https://github.com/facebookresearch/habitat-sim.git
```

8) Clone the HabitatLab github repository

```
git clone --branch stable https://github.com/facebookresearch/habitat-lab.git
cd habitat-lab
pip install -r requirements.txt
python setup.py develop --all
```

9) Change the path in the config yaml files (Habitat Lab)

10) Install the cudatoolkit

```
conda install -c nvidia cuda-toolkit
```

10) Create a sbatch file

```
#!/bin/bash

#SBATCH --nodes=1
#SBATCH --ntasks-per-node=1
#SBATCH --cpus-per-task=9
#SBATCH --time=20:00:00
#SBATCH --mem=16GB
#SBATCH --gres=gpu:rtx8000:1
#SBATCH --job-name=habitat_example
#SBATCH --mail-type=END
#SBATCH --mail-user=pr2257@nyu.edu

module purge

singularity exec --nv \
                     --bind /usr/share/glvnd/egl_vendor.d/10_nvidia.json \
            --overlay /scratch/pr2257/images/overlay-50G-10M.ext3:ro \
   /scratch/work/public/singularity/cuda11.6.124-cudnn8.4.0.27-devel-ubuntu20.04.4.sif \
            /bin/bash -c "source /ext3/env.sh; conda activate habitat; python /scratch/pr2257/deep-learning/project-2/habitat-sim/examples/
```